

CLAIMS

- 5 1. a Process for the preparation of doped pentasil-type zeolite comprising the steps of:
- a) preparing an aqueous precursor mixture comprising a silicon source, an aluminum source, doped faujasite seeds, and another type of seeding material, and
- 10 b) thermally treating the precursor mixture to form a doped pentasil-type zeolite.
2. The process of claim 1 wherein the doped pentasil-type zeolite is doped ZSM-5.
- 15 3. The process of claim 1 wherein the other type of seeding material comprises pentasil-type seeds.
4. The process of claim 1 wherein the other type of seeding material is a sol or gel containing an organic directing template.
- 20 5. The process of claim 1 wherein the faujasite seeds are doped with a dopant selected from the group consisting of Ce, La, Mn, Fe, Ti, Zr, Cu, Ni, Zn, Mo, W, V, Sn, Pt, Pd, Ga, B, and P.
- 25 6. The process of claim 1 wherein the silicon source is selected from the group consisting of sodium silicate, sodium meta-silicate, stabilized silica sols, silica

gels, polysilicic acid, tetra ethylortho silicate, fumed silicas, precipitated silicas, and mixtures thereof.

7. The process of claim 1 wherein the aluminum source is selected from the group consisting of $\text{Al}_2(\text{SO}_4)_3$, AlCl_3 , AlPO_4 , $\text{Al}_2(\text{HPO}_4)_3$, $\text{Al}(\text{H}_2\text{PO}_4)_3$, aluminum trihydrate ($\text{Al}(\text{OH})_3$), thermally treated aluminum trihydrate, (pseudo)boehmite, aluminum chlorohydrol, aluminum nitrohydrol, and mixtures thereof.
8. The process of claim 1 wherein step b) is performed at a temperature in the range 150-180°C.
9. The process of claim 1 wherein step b) is performed for 3-8 hours.
10. The process of claim 1 wherein a shaping step is performed between steps a) and b).